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Cytology of the ascocarp.—According to FRASER,³⁶ *Humaria rutilans* (*Peziza rutilans*) shows some interesting features in the origin and development of the ascus. The ascocarp originates as a tangle of hyphae without any differentiated sex organs, but nuclei fuse in pairs and the cells containing the fusion nuclei form ascogenous hyphae. Nuclear divisions in the hyphae show sixteen chromosomes, as do also the first and second divisions in the ascus. These two divisions have the characters of the heterotype and homotype mitoses. The third division in the ascus has eight chromosomes. During the first mitosis in the ascus the two nuclei of the ascus fuse. The spores are delimited by radiations passing from the centrosome, but near the base of the spore vacuoles may take part in the process.—CHARLES J. CHAMBERLAIN.

Fossil cycadophytes.—WIELAND³⁷ has published a short preliminary account of his examination of some of the most famous specimens of the Mesozoic cycadophytes preserved in European collections. The specimens described are those of *Cycadeoidea etrusca*, *C. Reichenbachiana*, *Williamsonia gigas*, and *Anomozamites minor*. With his long training in the American forms, the author was able to detect features which had escaped previous notice, confirming his results as to the bisporangiate strobilus, the synangial microsporangia, the branching habit, etc. Of special interest are *Williamsonia*, which links up the Mesozoic with the modern cycadophytes, and *Anomozamites*, with its slender branching stem, small blade-like leaves, and small strobili, which is more suggestive of the dicotyledons than any known cycadophyte.—J. M. C.

Plant remains in Scottish peat bogs.—In continuing his studies of the Scottish peat bogs, LEWIS³⁸ has published the results of his investigations in the Scottish Highlands and in the Shetland Islands. Most interesting details are given in reference to the different zones, and the author summarizes the situation in the following statement: "All the Scottish peat mosses [bogs] show a definite succession of plant remains. The oldest, in the south of Scotland and the Shetland Islands, have an arctic plant bed at the base. This is succeeded by a forest of birch, hazel, and alder containing the temperate plants. A second arctic plant bed occurs above the 'lower forest,' and is overlaid in all districts (except the Hebrides and the Shetland Islands) by an 'upper forest' covered by several feet of peat bog plants."—J. M. C.

Blepharoplast and centrosome of *Marchantia*.—ESCOYEZ³⁹ has studied mitoses in the spermatogenous tissue of *Marchantia polymorpha* and *Fegatella*

³⁶ FRASER, H. C. I., Contributions to the cytology of *Humaria rutilans*. Annals of Botany 22:35-55. pls. 4, 5. 1908.

³⁷ WIELAND, G. R., Historic fossil cycads. Am. Jour. Sci. IV. 25:93-101. 1908.

³⁸ LEWIS, FRANCIS J., The plant remains in the Scottish peat mosses. Part III. The Scottish Highlands and the Shetland Islands. Trans. Roy. Soc. Edinburgh 46:33-70. pls. 4. 1907.

³⁹ ESCOYEZ, EUD., Blépharoplaste et centrosome dans le *Marchantia polymorpha*. La Cellule 24:247-256. pl. 1. 1907.